LISTING OF CLAIMS

1. (currently amended) A vacuum exhaust apparatus for exhausting gas from at least two process vacuum chambers, comprising:

a sub-atmospheric chamber having at least two inlets and an outlet and having a sub-atmospheric abatement device for conditioning exhaust;

a plurality of high-vacuum pumps, each said high-vacuum pump connected on an exhaust side to one of the inlets of the sub-atmospheric chamber, each said high-vacuum pump being connected on a vacuum side to one of the process vacuum chambers for controlling vacuum within that chamber; and

a backing pump connected to the outlet of the sub-atmospheric chamber, for maintaining vacuum within that chamber.

(cancelled)

- 3. (currently amended) The vacuum exhaust apparatus of claim 21, wherein the sub-atmospheric abatement device is a scrubber.
- 4. (currently amended) The vacuum exhaust apparatus of claim 21, wherein the sub-atmospheric abatement device is a plasma device.
- 5. (original) The vacuum exhaust apparatus of claim 1, wherein the sub-atmospheric chamber is proximate the process chambers.
- 6. (original) The vacuum exhaust apparatus of claim 1, wherein the sub-atmospheric chamber is remote from the process chambers.
- 7. (original) The vacuum exhaust apparatus of claim 1, wherein an internal volume of the sub-atmospheric chamber reduces an effect of pressure changes in one of the process chambers on pressure in another of the process chambers.

- 8. (original) The vacuum exhaust apparatus of claim 1, wherein the high-vacuum pumps are turbo pumps.
- 9. (original) The vacuum exhaust apparatus of claim 1, wherein the high-vacuum pumps are turbo pumps capable of exhausting to a pressure of over 1 torr.
- 10. (original) The vacuum exhaust apparatus of claim 1, wherein the high-vacuum pumps are turbo pumps capable of exhausting to a pressure of over 5 torr.
- 11. (original) The vacuum exhaust apparatus of claim 1, further comprising throttle valves connected to exhaust sides of the high-vacuum pumps.
- 12. (original) The vacuum exhaust apparatus of claim 11, wherein the high-vacuum pumps are turbo pumps.
- 13. (original) The vacuum exhaust apparatus of claim 1, wherein the backing pump is proximate the sub-atmospheric chamber.
- 14. (original) The vacuum exhaust apparatus of claim 1, further comprising an atmospheric abatement device connected to an exhaust side of the backing pump.
- 15. (original) The vacuum exhaust apparatus of claim 14, wherein the atmospheric abatement device is a device selected from the group consisting of a wet scrubber, a dry scrubber and a combination dry/wet scrubber.
- 16. (original) The vacuum exhaust apparatus of claim 1, comprising four process vacuum chambers and four high-vacuum pumps.
- 17. (original) A semiconductor manufacturing system, comprising: a plurality of semiconductor vacuum processing chambers;

a plurality of pressure control units, each said pressure control unit connected to one processing chamber for evacuating said chamber;

a single sub-atmospheric abatement chamber connected to exhaust sides of each of said pressure control units, whereby all of said pressure control units exhaust into the single sub-atmospheric abatement chamber;

abatement means in the sub-atmospheric abatement chamber for conditioning exhaust in the sub-atmospheric abatement chamber;

a single backing pump connected to the sub-atmospheric abatement chamber for maintaining sub-atmospheric pressure in the sub-atmospheric abatement chamber; and

an atmospheric abatement chamber connected to an exhaust of the backing pump.

- 18. (original) The semiconductor manufacturing system of claim 17, wherein said pressure control unit comprises a turbo pump connected for evacuating the one processing chamber, and a throttle valve connected to an exhaust side of the turbo pump.
- 19. (original) The semiconductor manufacturing system of claim 17, wherein the abatement means in the sub-atmospheric abatement chamber is a plasma device.
- 20. (original) The semiconductor manufacturing system of claim 17, wherein each of the plurality of pressure control units is connected directly to the sub-atmospheric abatement chamber.
- 21. (original) The semiconductor manufacturing system of claim 17, wherein each of the plurality of pressure control units is connected remotely to the sub-atmospheric abatement chamber.
- 22. (original) The semiconductor manufacturing system of claim 17, wherein each of the vacuum processing chambers is located within a clean room, and the sub-atmospheric abatement chamber is located outside the clean room.
- 23. (currently amended) The vacuum exhaust apparatus semiconductor manufacturing system of

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claim 17, wherein an internal volume of the sub-atmospheric chamber reduces an effect of pressure changes in one of the processing chambers on pressure in another of the processing chambers.

24. (original) A method for exhausting gas from a plurality of process vacuum chambers to achieve a process vacuum pressure, the method comprising the steps of:

evacuating to an intermediate vacuum pressure greater than the process vacuum pressure, the process vacuum chambers and a sub-atmospheric abatement chamber, using a backing pump connected to an outlet of the abatement chamber;

independently evacuating to the process vacuum pressure each of the process vacuum chambers using a plurality of high-vacuum pumps, each of said high-vacuum pumps being connected for evacuating one of the process vacuum chambers;

each of said high-vacuum pumps further being connected for exhausting into inlets of said sub-atmospheric abatement chamber; and

conditioning exhaust in the sub-atmospheric abatement chamber using an abatement device.

- 25. (original) The method of claim 24, further comprising the step of independently controlling a pressure in each said process vacuum chamber using a corresponding high-vacuum pump and a corresponding throttle valve at an exhaust side of each high-vacuum pump.
- 26. (original) The method of claim 24, wherein the intermediate vacuum pressure is between 5 and 10 torr.